







Module 12: The Changing Times – The 2000s to the Present

Topic 4 Content: Technological Advancements

Introduction

Technological Advancements

Click each button below.

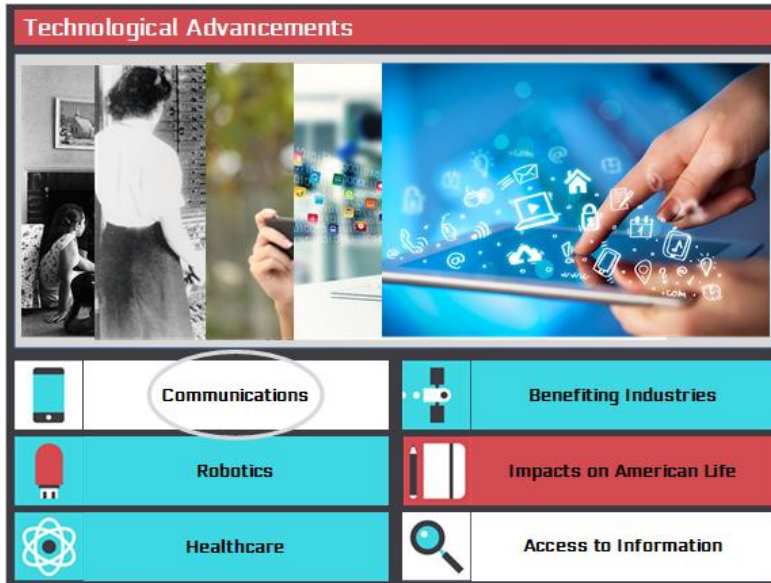
| | |
|--|--|
|  Communications |  Benefiting Industries |
|  Robotics |  Impacts on American Life |
|  Healthcare |  Access to Information |

Click each button below to learn about technological advancements.

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Communications



The television was on its way to widespread commercial adoption in the 1950s as it allowed people to see and experience events and places that were far from them, while remaining in the comfort of their homes. Consider that an estimated six hundred million people watched on television when Neil Armstrong stepped foot on the moon. Early televisions received a signal over the air using antennas. As technology advanced, the signal transitioned to a cable, which is used today.

In the 1940s the first computers were created, and were the size of classrooms. Between then and now, computers have gotten smaller, faster, and cheaper, and a whole computer industry has developed. Computers that power today's smartphones are a million times faster than they were in the 1940s, and they can fit inside of your pocket. In addition, they can handle significant volumes of information more efficiently and quickly than humans can, and they have greatly increased people's productivity.

The cellular phone is a third communication technology. Prior to the 1980s, phones used a system of wires to remain connected. During the 1980s, however, sufficient cellular networks were developed to make the cell phone a worthwhile communication tool. The convenience of having the ability to reach someone anytime began to take shape as additional tools, functionality, and Internet access were added to cell phones. One such feature includes the GPS, or global positioning system. When used on a smartphone, a GPS can identify where the smartphone is located on the planet.

A fourth communication technology, the Internet was originally designed to help share information between universities and the military, but it transitioned into a commercial system between the mid-1980s and 1995. Along with the creation of the Internet, email became a common communication tool that enabled people to send and receive information in a few seconds, rather than waiting to receive a letter through the mail. Now the Internet allows anyone with a connection to locate information on almost any topic in just a few taps or clicks.

Social media constitutes a final major communication change. It uses the power of computers, smartphones, and the Internet to keep people connected and informed about everyone in their various networks. A plethora of social media tools allow for different types of information sharing, and enable people to stay connected and in communication with others in ways that were not possible a few decades ago.

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Robotics



Robotics is another area of technological growth. Space shuttles made use of large robotic arms to move satellites and other space equipment. Now, robots are used in many different manufacturing facilities to help make everything from cell phones to cars. Doctors use robots to assist in medical surgeries. You can even find robotic vacuum cleaners for your house. Robots are learning to drive cars, and slowly but surely, replacing basic tasks done by humans.

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Healthcare



The image shows a grid titled "Technological Advancements" with a red header. The grid contains six categories, each with an icon and a label. The "Healthcare" category is highlighted with a white oval. The categories are:

- Communications (Smartphone icon)
- Benefiting Industries (Gears icon)
- Robotics (Red robot head icon)
- Impacts on American Life (American flag icon)
- Healthcare (Atom icon, highlighted)
- Access to Information (Magnifying glass icon)

Technologies have improved in the medical field as well. For example, in the early 1950s, a disease called Polio impacted thousands of people in the United States and many others around the world every year. In 1955, Jonas Salk created a vaccine to prevent people from contracting the disease. Today, thanks to Salk's vaccine, the number of Polio cases worldwide is less than one hundred. Furthermore, doctors have better access to diagnostic and imaging technologies which improves their understanding of what is happening in the human body, and make it easier for them to treat illness. These technologies have helped improve people's overall health, and have made it easier to screen for cancer and research stem cells.

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Industries Benefiting from New Technologies



New technologies mean new opportunities for businesses and increased economic growth. When new technologies appear, new industries spring up. Before the 1940s, for example, the computer industry did not exist. Today, some of the largest companies in the world are based around computers. Similarly, smartphone app developers did not exist before 2000, but now are in high demand. Think about how many Internet-based business you interact with on a regular basis. Before 1995, most of those businesses did not exist. A final example of an industry that has benefitted from new technologies is the satellite system industry. The significant demand for use of global position systems (GPS), which phones use to help people navigate, has helped this industry grow as well.

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Impacts of New Technologies on American Life



Online learning, or online courses, allows students to obtain an education away from school. The methods of teaching and learning differ from those found in a traditional school. In fact, as you take this course, you are participating in this new type of learning.

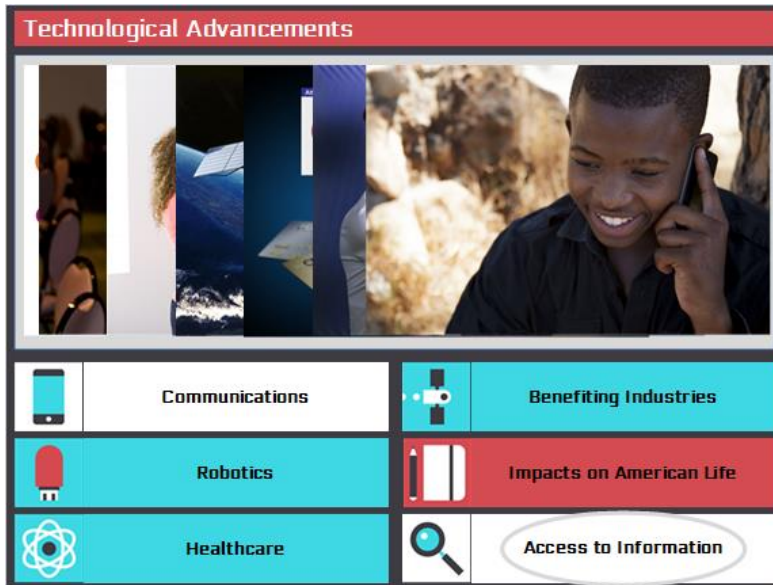
In the workforce, improved communications through smartphones, computers, and the Internet, has led to a rise in telecommuting, which is when employees work away from the office. Sometimes employees work away from the office because of travel, which has also gotten easier to do both domestically and internationally, for both business and pleasure. New technologies have also brought about offshoring in the workplace. This is when a company sends some of its work overseas in order to take advantage of lower costs. In particular, offshoring is possible because information can be quickly transmitted through the Internet. Furthermore, many products Americans use are made in China because it is cheaper to make items there and ship them to the United States.

As our economy becomes more connected on a global scale, jobs will be sent to locations that can complete the work at the lowest cost. Sometimes this means that companies will outsource their work. Outsourcing is when a company hires someone from outside the company to complete a job, rather than using a current employee to complete it.

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Access to Information



In the early days of television, people only had a few channels to choose from, opposed to the hundreds that are available today. Technological advancements have made it a lot easier to access news and other information. It is also much cheaper and more convenient to use tools like texting and emailing to communicate. Today, you can communicate with anyone in the world who has an Internet connection, and software even exists that will translate conversations in real time so that people who do not speak the same language can converse.

Since World War II, the United States has experienced a large increase in service industries, industries in which companies provide something that is not primarily a manufactured good. For example, getting a haircut is a service. This growth has come about because of the large increase in technology that has allowed for greater specialization of work. The Internet and Internet-based companies have also made it more convenient to shop. Now you can order online, and have anything shipped to your doorstep as soon as the next day.

With the greater connectivity that has come with satellites, cellular networks, the Internet, and smartphones, an increased risk in hacking and identify theft has arisen. Hacking involves someone using a computer to gain access to information on another computer without permission. Sometimes hackers steal information, and other times they do digital vandalism. Identify theft is a crime whereby someone steals another person's private and personal information to commit fraud. This includes social security numbers, account passwords, or credit card numbers. Types of identity theft include filing taxes with someone else's social security number to get a refund, applying for and using credit cards pretending to be another person, or taking over social media accounts and posting inappropriately.

In the past three decades, the world has seen huge improvements in technology and media, bringing about better communication and increased access to information for businesses and individuals. No matter whether someone lives in urban or rural areas, many more Americans have access to global information and viewpoints than they did just thirty years ago.